

REMARKS

Claims 1-5, 7-19, 24-28, 30-42, 47-51, and 53-65 are pending in this application.

In the Final Office Action,¹ the Examiner rejected claims 1-2, 5, 7-8, 13-15, 18-19, 24-25, 28, 30-31, 36-38, 41-42, 47-48, 51, 53-54, 59-61, and 64-65 under 35 U.S.C.

§ 103(a) as unpatentable over Sim (U.S. Patent Application Publication No.

2003/0031176) in view of Bishop (U.S. Patent No. 5,829,023); rejected claims 3-4, 26-

27, and 49-50 under 35 U.S.C. § 103(a) as unpatentable over Sim in view of Bishop and

in further view of Farber et al. (U.S. Patent No. 6,415,280); and rejected claims 9-12,

16-17, 32-35, 39-40, 55-58, and 62-63 under 35 U.S.C. § 103(a) as unpatentable over

Sim in view of Bishop and in further view of Cabrera et al. (U.S. Patent No. 6,490,666).

Applicant respectfully traverses the rejection of claims 1-2, 5, 7-8, 13-15, 18-19, 24-25, 28, 30-31, 36-38, 41-42, 47-48, 51, 53-54, 59-61, and 64-65 under 35 U.S.C.

§ 103(a) as unpatentable over Sim in view of Bishop.

Claim 1 recites a method for managing files in a file system, comprising, among other things, “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage.” Sim and Bishop do not disclose or suggest at least these features.

In the Response to Arguments section of the Final Office Action, the Examiner alleges applying “Bishop’s cache and release methodologies to **Sim’s segments**” renders the claimed invention obvious because “Sim clearly teaches the usage and

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization.

manipulation of the claimed 'segments.'" See page 14 (emphasis in original).

Applicant respectfully disagrees because, even if the Examiner's characterization were correct that Sim discloses segments, the combination of Sim and Bishop fails to disclose or suggest at least "releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage," as recited in claim 1.

Sim discloses that a "large payload file is divided into blocks in a number of steps ... depending on whether or not it is a linear file or a non-linear file." See page 8, paragraph 0092. "After the content provider uploads the file onto the content management server (CMS), the CMS determines whether the file is linear or non-linear" See page 8, paragraph 0095. "If the file is linear ..., the CMS sends the data to the DS" (Distribution Server). See id. "If the file is non-linear ..., the CMS ... generate[s] Linear Track Files 920." See id. "[T]he Linear Track Files 920 or the Linear Large Payload File 950 ... are ... transmitted by the CMS over the network to a DS." See page 9, paragraph 0096. Once transmitted, "[t]he files from the CMS are input to a DS-based Blocking Process 930, which produces Block Files 940. The Block Files 940 are subsequently stored in the local storage of the DS." See id.

Accordingly, Sim discloses using block files for ease of storage at a distribution server. For example, Sim discloses that "there need not be a direct relationship between the size of the files transferred over the network and the block files stored in the local storage system of the DS." See page 9, paragraph 0096. Further, "[b]reaking

down the large payload file into blocks makes it possible to distribute the block files into different storage devices when needed without impacting system performance.” See page 9, paragraph 0097. In that regard, Sim teaches that “multiple block files ... can be downloaded in parallel.” See id. Accordingly, Sim teaches away from the claimed invention since its blocks are used for storage and distribution from a distribution server, and the Sim system does not require a direct relationship between the size of the files transferred over the network and the block files stored in the local storage system of the distribution server. Therefore, storage of Sim's blocks at a distribution server does not constitute Applicant's claimed “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage,” as recited in claim 1.

Furthermore, as described in the Reply to Office Action filed March 18, 2005, the “clean” command of Sim also does not disclose the above feature of claim 1. Instead, the content management server of Sim may issue a clean or similar packet to notify the distribution server located at the same node that it needs to remove a file. See page 10, paragraph 109. The distribution server issues a “clean_ack” packet to acknowledge that the file will eventually be removed when ready. See page 10, paragraph 109. A clean or equivalent command is issued by the distribution server to neighboring nodes requesting deletion of the file and its related file metadata from all of the stations in the SCDN. See page 10, paragraph 109. Accordingly, a clean command issued by Sim deletes a file from both the distribution server and its neighboring nodes. Deleting a file

from a distribution server and neighboring nodes, however, also does not constitute “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage,” as recited in claim 1.

Moreover, Bishop does not cure the above described deficiencies of Sim. Bishop merely discloses that files within a local hard drive of a portable computer may be deleted or moved to a file server depending upon their date of last use and frequency of use. See col. 4, lines 30-37. Files having a high frequency of use may be retained on the local hard drive, regardless of their date of last use, as determined by a file caching algorithm. See col. 4, lines 30-37. Although Bishop discloses deleting or moving files, the reference does not disclose or suggest deleting or moving segments. Accordingly, Bishop does not disclose or suggest at least “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage,” as recited in claim 1.

Therefore, as discussed above, although Sim discloses storage of blocks at a distribution server, the Sim system deletes a **file** from a distribution server and neighboring nodes. Bishop, at most, discloses that a **file** within a local hard drive of a portable computer may be deleted or moved to a file server depending upon its date of last use and frequency of use. However, the asserted references, whether taken alone or in combination, do not disclose or suggest “releasing at least one of the segments

copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage,” as recited in claim 1.

Furthermore, the Examiner's allegation that applying “Bishop’s cache and release methodologies to **Sim’s segments**” renders the claimed invention obvious because “Sim clearly teaches the usage and manipulation of the claimed ‘segments.’” (See Final Office Action, page 14 (emphasis in original)) is unsubstantiated by any factual evidence in the record. Sim does not suggest “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released from the secondary storage,” as recited in claim 1. Instead, while Sim discloses using blocks when storing data at a distribution server, the Examiner has not shown any suggestion in Sim of using blocks when implementing the disclosed “clean” command. Furthermore, the Examiner has not shown any suggestion in Bishop of applying its process to anything other than files.

Applicant respectfully points out to the Examiner it “is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” See In re Wesslau, 147 U.S.P.Q. 391 (C.C.P.A. 1965). See also M.P.E.P. § 2141.02, p. 2100-120. By contrast, the required motivation to combine references must “be found in

the prior art, and not based on applicant's disclosure.” See M.P.E.P. § 2143 (emphasis added). Accordingly, Applicant submits that the asserted references, taken alone or in combination, do not suggest the desirability of any modification to result in Applicant's claimed invention and, furthermore, the references do not show that there would be any reasonable expectation of success from so doing. The rejection of claim 1 under 35 U.S.C. 103(a) is therefore improper for at least these additional reasons.

Independent claims 24 and 47, while of a different scope, include recitations similar to those of claim 1 and are thus allowable for at least the reasons discussed above with respect to claim 1. Accordingly, Applicant respectfully requests the Examiner to allow claims 1, 24, and 47. Claims 2, 5, 7-8, 13-15, and 8-19; 25, 28, 30-31, 36-38, and 41-42; and 48, 51, 53-54, and 59-61, respectively, depend from claims 1, 24, and 47. These dependent claims are therefore also allowable at least due to their dependence from allowable claims.

Moreover, claim 5 recites “providing a segment size that is at least greater than a byte size of a largest section within the file; and writing each file section to one segment.” The Examiner alleges that Sim discloses this feature at Figures 9 and 10 and the corresponding portions of Sim's disclosure. See Final Office Action, page 4. Applicant disagrees. Figures 9 and 10 disclose breaking down a large payload file into blocks, but do not disclose or suggest “providing a segment size that is at least greater than a byte size of a largest section within the file; and writing each file section to one segment,” as recited in claim 5. Nor does the Examiner allege Bishop discloses or suggests these features. Accordingly, the rejection of claim 5 as obvious over Sim in view of Bishop is improper for at least this additional reason.

Claims 28 and 51, while of a different scope, also include recitations similar to claim 5. Accordingly, the rejections of claims 28 and 51 are also improper at least due to the reason discussed above in connection with claim 5.

Claim 13 recites “maintaining metadata for each segment that is also maintained for files in the file system; and using the metadata for segments and files to determine when to copy segments and files to the secondary storage and when to release segments and files in the primary storage.” The Examiner alleges claim 13 is disclosed by paragraphs 0224-0231 of Sim. See Final Office Action, page 5. Applicant disagrees. In the portions cited by the Examiner, Sim discloses accessing a “File Metadata Database to determine how many and which blocks [the storage management subsystem] will request to be deleted.” See paragraph 0230. However, Sim does not disclose or suggest “using the metadata for segments and files *to determine when to copy segments and files to the secondary storage and when to release segments and files in the primary storage*,” as recited in claim 13 (emphasis added). Nor does the Examiner allege Bishop discloses or suggests these features. Accordingly, the rejection of claim 13 as obvious over Sim in view of Bishop is improper for at least this additional reason.

Claims 36 and 59, while of a different scope, also include recitations similar to claim 13. Accordingly, the rejections of claims 35 and 59 are also improper at least due to the reason discussed above in connection with claim 13.

Claim 14 recites “wherein segments and files in the primary storage are released according to their metadata if used space in the primary storage reaches a threshold level.” The Examiner also alleges claim 14 is disclosed by paragraphs 0224-0231 of

Sim. See Final Office Action, page 5. Applicant disagrees and notes that the portions cited by the Examiner do not disclose or suggest using Applicant's claimed "threshold level," nor has the Examiner pointed to any teaching in Sim of such a feature. The Examiner also does not allege Bishop discloses or suggests such a feature. Accordingly, the rejection of claim 14 as obvious over Sim in view of Bishop is improper for at least this additional reason.

Claims 37 and 60, while of a different scope, also include recitations similar to claim 14. Accordingly, the rejections of claims 37 and 60 are also improper at least due to the reason discussed above in connection with claim 14.

Applicant respectfully traverses the rejection of claims 3-4, 26-27, and 49-50 under 35 U.S.C. §103(a) as unpatentable over Sim in view of Bishop and in further view of Farber. These claims respectively depend from claims 1, 24, and 27, each of which recite "releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released," as noted previously. As discussed above, Sim and Bishop fail to teach at least these elements. Moreover, Farber does not make up for the deficiencies of Sim and Bishop. Instead, Farber discloses using a data identifier for a data item to provide the data item from a network of servers. However, Farber does not disclose or suggest "releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released," nor does the Examiner rely on Farber for

such teachings. Claims 3-4, 26-27, and 49-50 are thus allowable at least due to their dependence from claims 1, 24, and 27.

Moreover, claim 4 recites “receiving user input indicating the fixed byte length of each segment.” The Examiner alleges claim 4 is disclosed by paragraphs 0131-0136 of Sim. See Final Office Action, page 8. Applicant disagrees and notes that the portions cited by the Examiner do not disclose or suggest the claimed “receiving user input indicating the fixed byte length of each segment.” Nor has the Examiner pointed to any teaching in Sim that demonstrates user input is received that indicates the fixed byte length of each segment. The Examiner also does not allege Bishop or Farber discloses or suggests such a feature. Accordingly, the rejection of claim 4 is improper for at least this additional reason.

Claims 27 and 50, while of a different scope, also include recitations similar to claim 4. Accordingly, the rejections of claims 27 and 50 are also improper at least due to the reason discussed above in connection with claim 4.

Applicant respectfully traverses the rejection of claims 9-12, 16-17, 32-35, 39-40, 55-58, and 62-63 under 35 U.S.C. § 103(a) as unpatentable over Sim in view of Bishop and in further view of Cabrera. These claims respectively depend from claims 1, 24, and 27, which each recite “releasing at least one of the segments copied from the primary storage when copied to the secondary storage, wherein space used by the released segment in the primary storage is available for use and the at least one segment copied to the secondary storage is not released.” As discussed above, Sim and Bishop fail to teach at least these elements. Cabrera, which discloses buffering data from a file in a hierarchical data storage system, does not cure the above-noted

deficiencies of Sim and Bishop. Accordingly, claim 9-12, 16-17, 32-35, 39-40, 55-58, and 62-63, are also allowable at least due to their corresponding dependence from claims 1, 24, and 47.

Moreover, claim 9 recites “storing a partial version of the released segment including less than all data in the segment, wherein the segment data not in the partial version is stored in the secondary storage, wherein the partial version remains on the primary storage after the segment is released.” The Examiner alleges these features are taught by Cabrera and, in particular, cites the “stub files” discussed at col. 1, lines 53-58. Applicant disagrees because Cabrera discloses a “stub file” that “contains information that allows the hierarchical data storage system to determine where the data in the file has been migrated.” However, Cabrera’s “stub file” does not teach or suggest Applicant’s claimed “storing a partial version of the released segment including less than all data in the segment,” as recited in claim 9. The Examiner also does not allege Sim or Bishop discloses or suggests such a feature. Accordingly, the rejection of claim 9 is improper for at least this additional reason.

Claims 32 and 55, while of a different scope, also include recitations similar to claim 9. Accordingly, the rejections of claims 32 and 55 are also improper at least due to the reason discussed above in connection with claim 9.

Claim 10 recites “accessing the partial version of the determined segment on the primary storage to access the data therein; reaching the end of the partial version when accessing data therein; staging from the secondary storage to the primary storage data from the determined segment that is not in the partial version; and accessing the data from the determined segment staged from the secondary storage to the primary

storage.” The Examiner alleges these features are taught by Figure 7 of Cabrera. See Final Office Action, page 10. Applicant disagrees. Instead, Cabrera discloses a buffer management module that sends requested data to a requesting program by a request processing module. See col. 11, lines 37-40. Sending requested data to a requesting program, however, does not constitute or suggest at least “staging from the secondary storage to the primary storage data from the determined segment that is not in the partial version; and accessing the data from the determined segment staged from the secondary storage to the primary storage,” as recited in claim 10. The Examiner also does not allege Sim or Bishop discloses or suggests such a feature. Accordingly, the rejection of claim 10 is improper for at least this additional reason.

Claims 33 and 56, while of a different scope, also include recitations similar to claim 10. Accordingly, the rejections of claims 33 and 56 are also improper at least due to the reason discussed above in connection with claim 10.

Claim 16 recites “reading data from one target segment on the secondary storage; determining whether a stage attribute is specified indicating a number of segments to stage ahead; and initiating read requests to stage the number of subsequent segments following the target segment from the secondary storage to the primary storage.” The Examiner alleges that a stage attribute 502 of Cabrera discloses the features of claim 16. See Final Office Action, page 11. Applicant disagrees. While attributes field 502 “stores state or status parameters used to control manipulation and availability of the buffers and buffer headers,” (see col. 9, lines 39-41), the Examiner has not shown that Cabrera discloses or suggests “a stage attribute is specified indicating a number of segments to stage ahead,” as recited in claim 16. The Examiner

also does not allege Sim or Bishop discloses or suggests such a feature. Accordingly, the rejection of claim 16 is improper for at least this additional reason.

Claims 39 and 62, while of a different scope, also include recitations similar to claim 16. Accordingly, the rejections of claims 39 and 62 are also improper at least due to the reason discussed above in connection with claim 16.

Claim 17 recites “receiving user input indicating the number of segments to stage ahead.” The Examiner alleges Figure 5 of Cabrera discloses this feature. See Final Office Action, page 12. Applicant disagrees. Even if the Examiner’s allegations were correct with respect to claim 16, as discussed above, the Examiner has not shown that Cabrera teaches or suggests “receiving user input indicating the number of segments to stage ahead,” as recited in claim 17. The Examiner also does not allege Sim or Bishop discloses or suggests such a feature. Accordingly, the rejection of claim 17 is improper for at least this additional reason.

Claims 40 and 63, while of a different scope, also include recitations similar to claim 17. Accordingly, the rejections of claims 40 and 63 are also improper at least due to the reason discussed above in connection with claim 17.

CONCLUSION

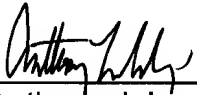
Applicant respectfully requests that the Examiner consider this request under 37 C.F.R. § 1.116. In view of the foregoing remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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